

1. An additive for a printing vehicle, comprising:
 - a block co-polymer comprising
 - a first block comprising a pendant group selected to interact with a substrate via a member of hydrogen bonding, π -bond interactions, Van der
 - 5 Walls forces, and any combination of the above; and
 - a second block comprising a member of an acidic, basic, charged, and chargeable moiety,
 - wherein the first block comprises at least 6 pendant groups and the second block comprises at least 6 acidic, basic, charged or chargeable groups.
- 10 2. The additive of claim 1, wherein the block co-polymer has a molecular weight between 500 and 500,000.
3. The additive of claim 2, wherein the block co-polymer has a molecular weight
- 15 between 500 and 10,000.
4. The additive of claim 2, wherein the block co-polymer has a molecular weight between 1,000 and 500,000.
- 20 5. The additive of claim 1, wherein the pendant group in the first block comprises a hydroxyl group.
6. The additive of claim 5, wherein the first block comprises poly(vinyl alcohol), poly(allyl alcohol), or poly(vinyl phenol).
- 25 7. The additive of claim 5, wherein the first block comprises a linker group interposed between the hydroxyl group and the polymer backbone.
8. The additive of claim 1, wherein the second block comprises a member of
- 30 poly(ethylene imine), methylated poly(ethylene imine), poly(diallyldimethylamino chloride), polymerized styrene maleic anhydride, and a polymer having a carboxylated pendant group.

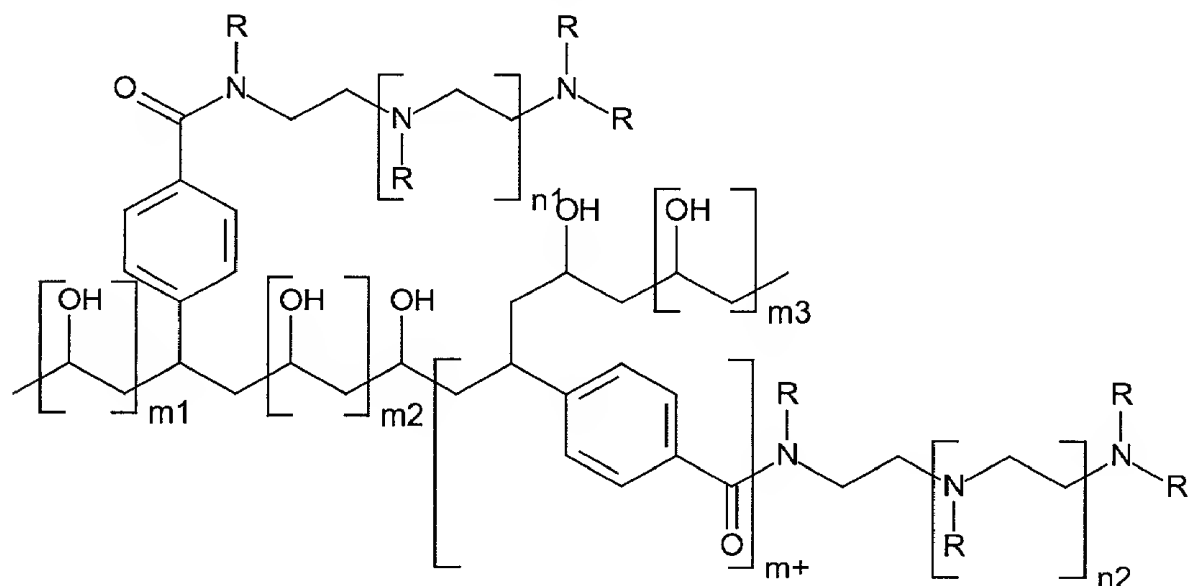
9. The additive of claim 8, wherein the polymer having a carboxylated pendant group comprises a linker group, wherein the linker group comprises an aliphatic moiety, an aromatic moiety, or both.

5 10. The additive of claim 1, further comprising a linker group separating the first and second blocks.

11. The additive of claim 10, wherein the linker group comprises at least one mer of polymerized vinyl benzoate.

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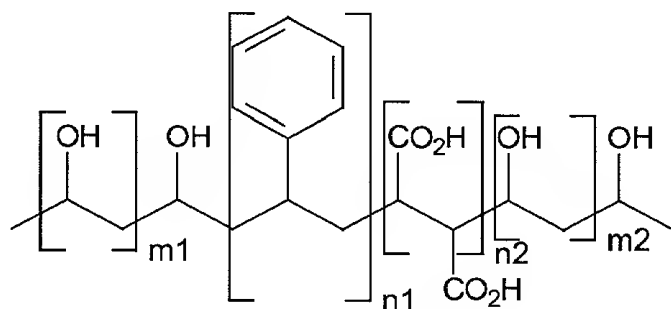
12. The additive of claim 1, wherein the block co-polymer comprises,



wherein m and n are at least 6 and the molecular weight is between 1,000 and 500,000.

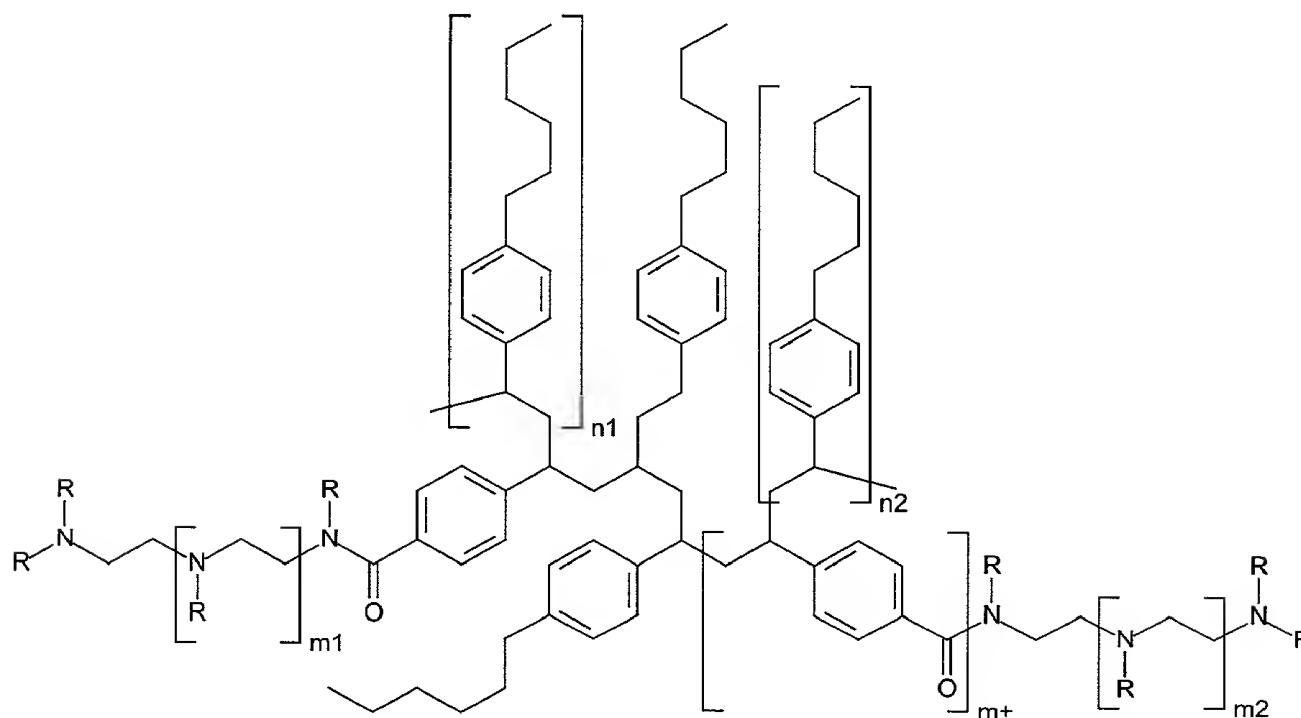
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13. The additive of claim 1, wherein the block co-polymer comprises,



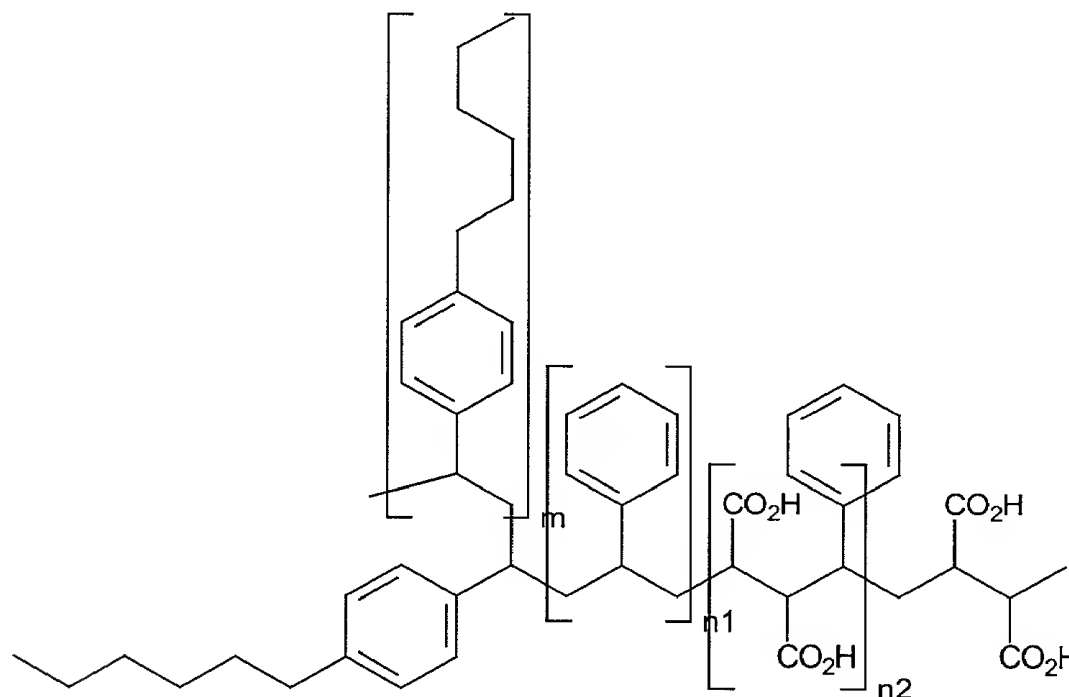
wherein m is at least 6, n is at least 2 and the molecular weight is between 1,000 and 500,000.

14. The additive of claim 1, wherein the block co-polymer comprises,



wherein m and n are at least 6 and the molecular weight is between 1,000 and 500,000.

15. The additive of claim 1, wherein the block co-polymer comprises,



wherein m is at least 6, n is at least 2, and the molecular weight is between 1,000 and 500,000.